



# STIC Search Report

## EIC 3600

STIC Database Tracking Number: 113059

To: Lynda Jasmin  
Location: 7A23  
Art Unit : 3627  
Friday, February 06, 2004

Case Serial Number: 09775262

From: Karen Lehman  
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### Search Notes

Most of what I found—even in the NPL—was patents.

Please let me know if you need a refocus.

show files;ds

File 2:INSPEC 1969-2004/Jan W4  
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File 5:Biosis Previews(R) 1969-2004/Feb W1  
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File 92:IHS Intl.Stds.& Specs. 1999/Nov  
(c) 1999 Information Handling Services  
File 94:JICST-EPlus 1985-2004/Jan W4  
(c)2004\Japan Science and Tech Corp(JST)  
File 144:Pascal 1973-2004/Jan W4  
(c) 2004 INIST/CNRS  
File 155:MEDLINE(R) 1966-2004/Feb W1  
(c) format only 2004 The Dialog Corp.  
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
(c) 1998 Inst for Sci Info

Set	Items	Description
S1	25816	MEDICAL()DEVICE?
S2	854677	IMPLANT?
S3	374408	CUSTOMI? OR PERSONALI? OR TAILORED
S4	41452	(SELECT? OR PICK? OR CHOOS?) (3N) (FEATUR? OR CAPABILI? OR T- RAIT?)
S5	386112	(COMMUNICAT? OR TRANSMIT? OR TRANSMIS? OR SEND? OR CONVEY?- ) (4N) (DATA OR INFORMATION OR REQUIREMENT?)
S6	2068381	INTERNET? OR NETWORK?
S7	701170	PROGRAMMER? OR OPERATOR? OR MANUFACTURER?
S8	1813233	HOSPITAL? OR SALES OR DISTRIBUTOR
S9	1738	S2 (4N) S1
S10	61	S9 (S) S5
S11	0	S10 AND S3
S12	20	S10 AND (S6 OR S7)
S13	1	S12 NOT PD=20000204:20040206
S14	6796153	CHANGE?
S15	53296	(SETTING? OR SETUP? OR CONFIGURAT?) (4N) (SELECT? OR CHANG? - OR RECONFIGU? OR ALTER? OR MANIPULAT? OR CUSTOMI?)
S16	73	S9 AND (S5 OR S4 OR S15)
S17	1	S10 AND (S4 OR S15)
S18	46	RD S10 (unique items)
S19	19	S18 NOT PD=2000204:20040206
S20	3	S9 AND (S4 OR S15)
?		

O=all reviewed 3/3/04

13/7/1 (Item 1 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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0012042069 BIOSIS NO.: 199900301729

**Interrogation of an implantable medical device using audible sound  
communication**

AUTHOR: Greeninger Daniel R (Reprint); Hartlaub Jerome T; Thompson David L  
AUTHOR ADDRESS: Coon Rapids, MN, USA\*\*USA  
JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1221 (1): 15-JUN-99 1999  
MEDIUM: print  
ISSN: 0098-1133  
DOCUMENT TYPE: Patent  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Methods and apparatus for interrogation of implantable medical device (IMD) information, including programmed parameter values, operating modes and programmed changes thereof and data stored in the IMD, by emission of audible sounds by the IMD are disclosed. The IMD includes an audio transducer that emits audible sounds including voiced statements or musical tones stored in analog memory correlated to a programming or interrogation operating algorithm or to a warning trigger event. The audible sounds can comprise the sole uplink transmission or may augment the contemporaneous uplink RF \*transmission\* of stored \*data\*, and/or programmed operating modes and parameters and/or device operations and states in an interrogation or during programming. To conserve energy, the audible sounds accompanying interrogation and programming of the IMD are at a low volume that preferably cannot be heard without use of an external audio amplifier or stethoscope. Voiced statements warning of battery energy depletion or imminent delivery of a therapy are emitted at a higher volume that is sufficient to be heard by the patient, so that the patient can take appropriate action. The volume of audible sounds confirming programmed changes made by a patient using a limited function \*programmer\* or magnet is also increased so that the patient can hear them.

?

,K/1 (Item 1 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2004 BIOSIS. All rts. reserv.

0013830421 BIOSIS NO.: 200200423932

Implantable medical device programming apparatus having an auxiliary  
component storage compartment

AUTHOR: Winkler Thomas J (Reprint)

AUTHOR ADDRESS: Isanti, MN, USA\*\*USA

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1259 (4): June 25, 2002 2002

MEDIUM: e-file

PATENT NUMBER: US 6411851 PATENT DATE GRANTED: June 25, 2002 20020625

PATENT CLASSIFICATION: 607-30 PATENT ASSIGNEE: Medtronic, Inc.

PATENT COUNTRY: USA

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

...ABSTRACT: y component is configured to assist with programming an  
implantable medical device, perform programming and \*data\* \*transmission\*  
functions in cooperation with a remote data center, and interfaces with  
the computer circuitry via...  
...extend along at least a portion of a perimeter of the storage  
compartment. With this \*configuration\*, the lip \*selectively\* maintains  
the cable within the storage compartment thereby minimizing potential  
damage to the cable.

?

19/7/1 (Item 1 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

7762742 INSPEC Abstract Number: B2003-11-7520E-064

**Title: A CMOS micro-power wideband data/power transfer system for biomedical implants**

Author(s): Omeni, O.; Toumazou, C.  
Author Affiliation: Toumaz Technol. Ltd., UK  
Conference Title: Proceedings of the 2003 IEEE International Symposium on Circuits and Systems (Cat. No.03CH37430) Part vol.5 p.V-61-4 vol.5  
Publisher: IEEE, Piscataway, NJ, USA  
Publication Date: 2003 Country of Publication: USA 5  
vol.(ci+1076+962+941+915+840) pp.  
ISBN: 0 7803 7761 3 Material Identity Number: XX-2003-02031  
U.S. Copyright Clearance Center Code: 0-7803-7761-3/03/\$17.00  
Conference Title: ISCAS 2003. International Symposium on Circuits and Systems

Conference Sponsor: IEEE Circuits & Syst. Soc; Mahanakorn Univ. Technol  
Conference Date: 25-28 May 2003 Conference Location: Bangkok, Thailand  
Medium: Also available on CD-ROM in PDF format  
Language: English Document Type: Conference Paper (PA)  
Treatment: Practical (P); Experimental (X)  
Abstract: This paper presents a low power wideband data/power transfer system for fully \*implantable\* \*medical\* \*devices\* such as a cochlea \*implants\*. Generally, low-power data/power transfer systems have two modes of operation; Power transfer and data transfer. Unlike recently reported low-power data/power transfer schemes in which \*data\* is \*transmitted\* separately from power [1], in this implementation, power and \*data\* are \*transmitted\* together via an inductive link. Using on/off keying with PWM Modulation enables continuous power transfer irrespective of the \*data\* being \*transmitted\*. Also the clock is extracted from the PWM envelope, making an on-chip clock generation circuit unnecessary. Measured results on a test chip show worst case PWM data discrimination of 10%, making a tighter encoding scheme possible. The proposed system is tuneable via a single bias current from 1 kHz to 2 MHz modulation frequency making it suitable for a wide range of low power unidirectional communication systems. The experimental Power Supply immunity was as large as +or-15% for  $V_{DD}/4$  V. Although the fabricated chip was not optimised for low power, it only consumed 16 mu W for a bias current of 160 nA@50 kHz on a standard CMOS process. A more recent optimised version of the chip consumes only about 3 mu W of power. (6 Refs)

Subfile: B  
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19/7/2 (Item 2 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

7338390 INSPEC Abstract Number: A2002-18-8760B-006, B2002-09-7520E-015

**Title: Power and interactive \*information\* \*transmission\* to \*implanted\* \*medical\* \*device\* using ultrasonic**

Author(s): Suzuki, S.; Kimura, S.; Katane, T.; Saotome, H.; Saito, O.; Kobayashi, K.  
Author Affiliation: Fac. of Eng., Chiba Univ., Japan  
Journal: Japanese Journal of Applied Physics, Part 1 (Regular Papers, Short Notes & Review Papers) Conference Title: Jpn. J. Appl. Phys. 1, Regul. Pap. Short Notes Rev. Pap. (Japan) vol.41, no.5B p.3600-3  
Publisher: Japan Soc. Appl. Phys,

Publication Date: May 2002 Country of Publication: Japan  
CODEN: JAPNDE ISSN: 0021-4922  
SICI: 0021-4922(200205)41:5BL3600:PIIT;1-O  
Material Identity Number: F221-2002-011  
Conference Title: 22nd Symposium on Ultrasonic Electronics (USE2001)  
Conference Date: 7-9 Nov. 2001 Conference Location: Kanagawa, Japan  
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Practical (P)

Abstract: In this paper, we propose the power supply and the bi-directional information transmission system using ultrasonic. Ultrasonic does not interfere with the electronic circuits of implanted devices and is safe for a living body. Previously, we have clarified experimentally that ultrasonic is applicable to power and information transmission. This study deals with improving information transmission speed from the inside to the outside of the body. The new system uses two transmission paths, Path 1 and Path 2. Each path consists of a pair of piezo oscillators. Path 1 transmits a carrier wave and Path 2 echoes back the inside information. As a result, the transmission speed increases to 9.6 Kbps from 600 bps without errors. Additionally, several types of information, such as text, static and motion image files can be transmitted. The proposed system can be applied to various medical applications. (8 Refs)

Subfile: A B

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19/7/3 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

7196138 INSPEC Abstract Number: B2002-04-7520E-008

Title: **Near-infrared light power/\*information\* \*transmission\* for \*implantable\* \*medical\* \*devices\***

Author(s): Goto, K.; Nakagawa, T.; Nakamura, O.; Kawata, S.

Author Affiliation: Dept. of Appl. Phys., Osaka Univ., Japan

Conference Title: Technical Digest. Summaries of papers presented at the Conference on Lasers and Electro-Optics. Postconference Technical Digest (IEEE Cat. No.01CH37170) p.313

Publisher: Opt. Soc. America, Washington, DC, USA

Publication Date: 2001 Country of Publication: USA 604+72 post deadline papers pp.

ISBN: 1 55752 662 1 Material Identity Number: XX-2001-01869

Conference Title: CLEO 2001. Technical Digest. Summaries of papers presented at the Conference on Lasers and Electro-Optics. Postconference Technical Digest

Conference Sponsor: IEEE/Lasers & Electro-Opt. Soc.; OSA-Opt. Soc. America; Quantum Electron. Division of the Eur. Phys. Soc.; Opt. Soc. Japanese Quantum Electron. Joint Group

Conference Date: 6-11 May 2001 Conference Location: Baltimore, MD, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Experimental (X)

Abstract: Summary form only given. Power supply and \*information\* \*transmission\* are important issues in developing \*implantable\* \*medical\* \*devices\*. Power and information should be sent through wireless methods in order to prevent infection. Recently, a transcutaneous power supply technique using near-infrared light has been proposed. This technique is non-invasive and causes little electromagnetic disturbances for surrounding instruments. By applying this technique, we have developed two new devices: an implantable power supplier with a rechargeable battery and an implantable transmitter driven by laser irradiation. The implantable power supplier consists of an array of PIN photodiodes and a rechargeable

battery. The implantable transmitter consists of a PIN photodiode array, a near-infrared light emitting diode, and a phase-modulation circuit. (1 Refs)

Subfile: B

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19/7/4 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

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6993818 INSPEC Abstract Number: A2001-17-8770J-016, B2001-09-7520E-013, C2001-09-3385C-005

Title: Power and \*information\* \*transmission\* to \*implanted\* \*medical\* \*device\* using ultrasonics

Author(s): Kawanabe, H.; Katane, T.; Saotome, H.; Saito, O.; Kobayashi, K.

Author Affiliation: Fac. of Educ., Chiba Univ., Japan

Journal: Japanese Journal of Applied Physics, Part 1 (Regular Papers, Short Notes & Review Papers) vol.40, no.5B p.3865-6

Publisher: Japan Soc. Appl. Phys,

Publication Date: May 2001 Country of Publication: Japan

CODEN: JAPNDE ISSN: 0021-4922

SICI: 0021-4922(200105)40:5BL.3865:PITI;1-G

Material Identity Number: F221-2001-012

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: Using ultrasonics, the authors propose here a novel method of transmitting power and information to implanted medical equipment. The proposed system is composed of two piezo oscillators and has the following functions: transmission of power and control information to an implanted device, and transmission of the information acquired by an implanted device to the outside of a living body. With amplitude shift keying (ASK), 9.5 kbps is obtained for the proposed information transmission system. (0 Refs)

Subfile: A B C

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19/7/5 (Item 1 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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0013508647 BIOSIS NO.: 200200102158

Data communication system for control of transcutaneous energy transmission to an \*implantable\* \*medical\* \*device\*

AUTHOR: Nedungadi A P; Wang X

AUTHOR ADDRESS: Lake Oswego, Oreg., USA\*\*USA

JOURNAL: Official Gazette of the United States Patent and Trademark Office Patents 1207 (1): p302 Feb. 3, 1998 1998

MEDIUM: print

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Citation

LANGUAGE: English

19/7/6 (Item 2 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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0013440294 BIOSIS NO.: 200200033805

**Apparatus for high speed data communication between an external \*medical\*  
\*device\* and an \*implantable\* \*medical\* \*device\***

AUTHOR: Cox T J; Armstrong R K

AUTHOR ADDRESS: Lake Jackson, Tex., USA\*\*USA

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1182 (1): p278-279 Jan. 2, 1996 1996

MEDIUM: print

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Citation

LANGUAGE: English

19/7/7 (Item 3 from file: 5)

DIALOG(R)File 5: Biosis Previews(R)

(c) 2004 BIOSIS. All rts. reserv.

0013108025 BIOSIS NO.: 200100279864

**Circuit and method for implantable dual sensor medical electrical lead**

AUTHOR: Roberts Jonathan P; Roline Glenn M (Reprint); Lee Brian B

AUTHOR ADDRESS: Anoka, MN, USA\*\*USA

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1241 (3): Dec. 19, 2000 2000

MEDIUM: e-file

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: An implantable dual transducer apparatus for use with an implantable medical device and control method are disclosed. The dual transducer assembly includes two physiologic sensors coupled to the medical device via a pair of lead conductors. Switching circuitry is controlled by the medical device to selectively activate and deactivate the two physiologic sensors by application of a supply voltage of an appropriate polarity. Each sensor of the dual transducer assembly is connected to the pair of lead conductors through a respective power switch. In response to the polarity of the supply voltage applied to the lead conductors, the power switches activate or deactivate their respective sensor in an alternating manner. Selective activation of one of the sensor while concurrently deactivating the other sensor of the dual transducer assembly provides for reduced power consumption and reliable \*communication\* of sensor \*data\* and other \*information\* \*transmitted\* over the pair of lead conductors. The power switches may be constructed using diodes, including discrete or substrate diodes, or transistors, such as n-channel and p-channel transistors. A wide variety of physiologic sensors may be incorporated into the dual transducer assembly.

19/7/8 (Item 4 from file: 5)

DIALOG(R)File 5: Biosis Previews(R)

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0013108012 BIOSIS NO.: 200100279851

**Non-invasive cardiac monitoring system and method with communications  
interface**

AUTHOR: Miesel Keith A; Stylos Lee

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1241 (3): Dec. 19, 2000 2000



MEDIUM: e-file  
ISSN: 0098-1133  
DOCUMENT TYPE: Patent  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: A system and method for determining a patient's cardiac output in a non-invasive manner and transmitting cardiac output data to a remote host processor, a communications system, or a local output device is disclosed. A non-invasive cardiac monitoring approach utilizes an \*implantable\* \*medical\* \*device\* coupled to an oxygen sensor. The oxygen sensor provides venous oxygen saturation data to the \*implantable\* \*medical\* \*device\*. An oxygen consumption unit produces oxygen consumption data using air exhaled by a patient. A processing unit calculates a cardiac output result in real-time using the venous oxygen saturation data, the oxygen consumption data, and arterial oxygen saturation data assumed to be about 100% or acquired using a sensor external to the patient. The \*implantable\* \*medical\* \*device\* may \*transmit\* the venous oxygen saturation \*data\* to the processing unit using electromagnetic signals or acoustic signals. The \*implantable\* \*medical\* \*device\* may be a pacemaker, a pacemaker/cardioverter/defibrillator (PCD), an oxygen sensing device, or an implantable hemodynamic monitor. The processing unit may store the cardiac output data/result for a period of time and/or communicate the cardiac output result to the remote host processor substantially in real-time via a communications interface. The interface may include a modem, a computer interface, a network interface, or a communications system interface, for example. The processing unit may communicate the cardiac output result to the remote host processor in an analog, digital or optical form.

19/7/9 (Item 5 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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0013050873 BIOSIS NO.: 200100222712  
**Telemetry for implantable devices using the body as an antenna**  
AUTHOR: Ryan Terence G  
JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1238 (1): Sep. 5, 2000 2000  
MEDIUM: e-file  
ISSN: 0098-1133  
DOCUMENT TYPE: Patent  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: A telemetry system and method includes an implantable medical device implanted in a body and an external communication device, e.g., a programmer. The implanted device includes a housing having transmitter/receiver circuitry positioned therein. The external communication device includes transmitter/receiver circuitry connected to an antenna thereof. The transmitter/receiver circuitry of the implanted device is electrically coupled to the body such that the body functions as an antenna for the implanted device to facilitate \*communication\* of \*data\* between the implanted device and the external communication device.

19/7/10 (Item 6 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)

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0012981146 BIOSIS NO.: 200100152985

**World wide patient location and data telemetry system for implantable medical devices**

AUTHOR: Thompson David L

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1236 (1): July 4, 2000 2000

MEDIUM: e-file

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English ;

ABSTRACT: A system for communicating with a medical device implanted in an ambulatory patient and for locating the patient in order to selectively monitor device function, alter device operating parameters and modes and provide emergency assistance to and communications with a patient. The implanted device includes a telemetry transceiver for \*communicating\* \*data\* and operating instructions between the implanted device and an external patient communications control device that is either worn by or located in proximity to the patient within the implanted device traneiving range. The control device preferably includes a communication link with a remote medical support network, a global positioning satellite receiver for receiving positioning data identifying the global position of the control device, and a patient activated link for permitting patient initiated personal communication with the medical support network. A system controller in the control device controls \*data\* and voice \*communications\* for selectively transmitting patient initiated personal \*communications\* and global positioning \*data\* to the medical support network, for initiating telemetry out of data and operating commands from the implanted device and transmission of the same to the medical support network, and for receiving and initiating re-programming\of the implanted device operating modes and parameters in response to instructions received from the medical support network. The communications link between the medical support network and the patient communications control device may comprise a world wide satellite network, hard-wired telephone network, a cellular telephone network or other personal communications system. Methods and apparatus are also described that enhance the ability of the medical system to find patients and to get reports on patient and medical device status, and even update medical device programming using such facilities, and others described in detail within.

19/7/11 (Item 7 from file: 5)

DIALOG(R) File 5: Biosis Previews(R)

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0012956903 BIOSIS NO.: 200100128742

**Audible sound communication from an implantable medical device**

AUTHOR: Greeninger Daniel R; Thompson David L; Hartlaub Jerome T

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1236 (1): July 4, 2000 2000

MEDIUM: e-file

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Methods and apparatus for communication of implantable medical

device (IMD) information, including confirmation of programming and programmed parameter values, operating modes and programmed changes thereof and data stored in the IMD, by emission of audible sounds by the IMD are disclosed. The IMD includes an audio transducer that emits audible sounds including voiced statements or musical tones stored in analog memory correlated to a programming or interrogation operating algorithm or to a warning trigger event. The audible sounds can comprise the sole uplink transmission or may augment the contemporaneous uplink RF \*transmission\* of stored \*data\*, and/or programmed operating modes and parameters and/or device operations and states in an interrogation or during programming. To conserve energy, the audible sounds accompanying interrogation and programming of the IMD are at a low volume that preferably cannot be heard without use of an external audio amplifier or stethoscope. Voiced statements warning of battery energy depletion or imminent delivery of a therapy are emitted at a higher volume that is sufficient to be heard by the patient, so that the patient can take appropriate action. The volume of audible sounds confirming programmed changes made by a patient using a limited function programmer or magnet is also increased so that the patient can hear them.

19/7/12 (Item 8 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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0012875953 BIOSIS NO.: 200100047792

**Audible sound confirmation of programming an implantable medical device**

AUTHOR: Hartlaub Jerome T; Thompson David L; Greeninger Daniel R  
JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1234 (5): May 30, 2000 2000  
MEDIUM: e-file  
ISSN: 0098-1133  
DOCUMENT TYPE: Patent  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Methods and apparatus for confirming programming of implantable medical device (IMD) operating parameter values and operating modes by emission of audible sounds by the IMD are disclosed. The IMD includes an audio transducer that emits audible sounds including voiced statements or musical tones stored in analog memory correlated to a programming or interrogation operating algorithm or to a warning trigger event. The audible sounds can comprise the sole uplink transmission or may augment the contemporaneous uplink RF \*transmission\* of stored \*data\*, and/or programmed operating modes and parameters and/or device operations and states in an interrogation or during programming. To conserve energy, the audible sounds accompanying interrogation and programming of the IMD are at a low volume that preferably cannot be heard without use of an external audio amplifier or stethoscope. Voiced statements warning of battery energy depletion or imminent delivery of a therapy are emitted at a higher volume that is sufficient to be heard by the patient, so that the patient can take appropriate action. The volume of audible sounds confirming programmed changes made by a patient using a limited function programmer or magnet is also increased so that the patient can hear them.

19/7/13 (Item 9 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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0012839815 BIOSIS NO.: 200100011654

**Implantable medical device using audible sound communication to provide warnings**

AUTHOR: Greeninger Daniel R; Thompson David L; Hartlaub Jerome T  
JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1234 (4): May 23, 2000 2000  
MEDIUM: e-file  
ISSN: 0098-1133  
DOCUMENT TYPE: Patent  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Methods and apparatus for interrogation of implantable medical device (IMD) information, including programmed parameter values, operating modes and programmed changes thereof and data stored in the IMD, by emission of audible sounds by the IMD are disclosed. The IMD includes an audio transducer that emits audible sounds including voiced statements or musical tones stored in analog memory correlated to a programming or interrogation operating algorithm or to a warning trigger event. The audible sounds can comprise the sole uplink transmission or may augment the contemporaneous uplink RF \*transmission\* of stored \*data\*, and/or programmed operating modes and parameters and/or device operations and states in an interrogation or during programming. To conserve energy, the audible sounds accompanying interrogation and programming of the IMD are at a low volume that preferably cannot be heard without use of an external audio amplifier or stethoscope. Voiced statements warning of battery energy depletion or imminent delivery of a therapy are emitted at a higher volume that is sufficient to be heard by the patient, so that the patient can take appropriate action. The volume of audible sounds confirming programmed changes made by a patient using a limited function programmer or magnet is also increased so that the patient can hear them.

19/7/14 (Item 10 from file: 5)  
DIALOG(R)File 5:BIOSIS Previews(R)  
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0012711000 BIOSIS NO.: 200000429313

**Audible sound confirmation of programming change in an implantable medical device**

AUTHOR: Hartlaub Jerome T (Reprint); Thompson David L; Greeninger Daniel R  
AUTHOR ADDRESS: New Brighton, MN, USA\*\*USA  
JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1232 (4): Mar. 28, 2000 2000  
MEDIUM: e-file  
ISSN: 0098-1133  
DOCUMENT TYPE: Patent  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Methods and apparatus for confirming programming of implantable medical device (IMD) operating parameter values and operating modes by emission of audible sounds by the IMD are disclosed. The IMD includes an audio transducer that emits audible sounds including voiced statements or musical tones stored in analog memory correlated to a programming or interrogation operating algorithm or to a warning trigger event. The audible sounds can comprise the sole uplink transmission or may augment the contemporaneous uplink RF \*transmission\* of stored \*data\*, and/or programmed operating modes and parameters and/or device operations and states in an interrogation or during programming. To conserve energy, the audible sounds accompanying interrogation and programming of the IMD are

at a low volume that preferably cannot be heard without use of an external audio amplifier or stethoscope. Voiced statements warning of battery energy depletion or imminent delivery of a therapy are emitted at a higher volume that is sufficient to be heard by the patient, so that the patient can take appropriate action. The volume of audible sounds confirming programmed changes made by a patient using a limited function programmer or magnet is also increased so that the patient can hear them.

19/7/15 (Item 11 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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0012042069 BIOSIS NO.: 199900301729

**Interrogation of an implantable medical device using audible sound communication**

AUTHOR: Greeninger Daniel R (Reprint); Hartlaub Jerome T; Thompson David L  
AUTHOR ADDRESS: Coon Rapids, MN, USA\*\*USA  
JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1221 (1): 15-JUN-99 1999  
MEDIUM: print  
ISSN: 0098-1133  
DOCUMENT TYPE: Patent  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Methods and apparatus for interrogation of implantable medical device (IMD) information, including programmed parameter values, operating modes and programmed changes thereof and data stored in the IMD, by emission of audible sounds by the IMD are disclosed. The IMD includes an audio transducer that emits audible sounds including voiced statements or musical tones stored in analog memory correlated to a programming or interrogation operating algorithm or to a warning trigger event. The audible sounds can comprise the sole uplink transmission or may augment the contemporaneous uplink RF \*transmission\* of stored \*data\*, and/or programmed operating modes and parameters and/or device operations and states in an interrogation or during programming. To conserve energy, the audible sounds accompanying interrogation and programming of the IMD are at a low volume that preferably cannot be heard without use of an external audio amplifier or stethoscope. Voiced statements warning of battery energy depletion or imminent delivery of a therapy are emitted at a higher volume that is sufficient to be heard by the patient, so that the patient can take appropriate action. The volume of audible sounds confirming programmed changes made by a patient using a limited function programmer or magnet is also increased so that the patient can hear them.

19/7/16 (Item 12 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
(c) 2004 BIOSIS. All rts. reserv.

0011020682 BIOSIS NO.: 199799654742

**Wireless monitoring and control for implantable rotary blood pumps**

AUTHOR: Mussivand Tofy (Reprint); Hum Albert; Holmes Kevin S; Keon Wilbert J  
AUTHOR ADDRESS: Cardiovascular Devices Div., Univ. Ottawa Heart Inst., 1053 Carling Avenue, Room H560B, Ottawa, ON K1Y 4E9, Canada\*\*Canada  
JOURNAL: Artificial Organs 21 (7): p661-664 1997 1997  
ISSN: 0160-564X  
DOCUMENT TYPE: Article

RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: A wireless biotelemetry system for the transfer of digital data through intact skin and tissue has been developed to provide a safe and noninvasive means of communication between implanted medical devices and the outside of the body. The system utilizes 2 miniature infrared \*transmitter\*/receiver modules. \*Data\* are \*transmitted\* through intact skin and subcutaneous tissue on an 890 nm infrared carrier signal. The system has been evaluated in human cadavers and during in vivo implantation of artificial hearts and ventricular assist devices for durations of up to 96 h. Acceptable data transfer (error rate lt 10<sup>-5</sup>) through a typical tissue thickness of 5-25 mm has been demonstrated. The ability to monitor and control a device from a remote site using public communication systems such as telephone lines and asynchronous transfer mode (ATM) systems has also been demonstrated. Design optimization is currently ongoing in preparation for clinical utilization with artificial heart systems and other implantable devices (such as rotary blood pumps).

19/7/17 (Item 1 from file: 6)  
DIALOG(R)File 6:NTIS  
(c) 2004 NTIS, Intl Cpyrght All Rights Res. All rts. reserv.

2007783 NTIS Accession Number: PB97-859342  
Finite State Machines. (Latest citations from the U.S. Patent Bibliographic File with Exemplary Claims)  
(Published Search)  
NERAC, Inc., Tolland, CT.  
Corp. Source Codes: 103588000  
Sponsor: National Technical Information Service, Springfield, VA.  
May 97 50-250 citations  
Languages: English Document Type: Bibliography; Patent  
Journal Announcement: GRAI9716  
Sponsored in part by National Technical Information Service, Springfield, VA.

Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

NTIS Prices: PC N01/MF N01

Country of Publication: United States

The bibliography contains citations of selected patents concerning finite state machine (FSM) hardware and software, models, and applications. Topics include FSM logic, fuzzy logic FSM, state transitions and failure, undefined states and resetting, communication between FSMs, and alarm signals. Citations also describe applications in computer \*communication\* systems, \*data\* processing systems, integrated circuit testing, \*implantable\* \*medical\* \*devices\*, and aircraft survivability systems. (Contains 50-250 citations and includes a subject term index and title list.) (Copyright NERAC, Inc. 1995)

19/7/18 (Item 1 from file: 8)  
DIALOG(R)File 8:Ei Compendex(R)  
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

04330057 E.I. No: EIP95112933236

Title: Transcutaneous energy and information transfer system for implanted medical devices

Author: Mussivand, Tofy; Hum, Albert; Diguer, Marc; Holmes, Kevin S.;

Karen Lehman EIC 3600 06-Feb-04

Vecchio, Gino; Masters, Roy G.; Hendry, Paul J.; Keon, Wilbert J.

Corporate Source: Univ of Ottawa Heart Inst, Ottawa, Ont, Can

Source: ASAIO Journal v 41 n 3 Jul-Sep 1995. p M253-M258

Publication Year: 1995

CODEN: ASATEJ ISSN: 1058-2916

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); G; (General Review); X; (Experimental)

Journal Announcement: 9603W3

Abstract: A transcutaneous energy transfer system combined with a remote communications systems was developed and evaluated in vitro and in vivo. The energy transfer system can deliver up to 60 W with power transfer efficiencies between 60 and 83%. The remote \*communications\* system can transfer digital \*data\* bidirectionally through intact skin at rates up to 9,600 baud. The system \*transmit\* \*information\* by frequency modulating an 890 nm infrared carrier signal. The system has demonstrated satisfactory performance during multicenter evaluation with ventricular assist and total artificial heart\devices. Design improvements have been identified, which will be implemented to produce an optimized system for energy transfer to and remote communications with various \*implantable\* \*medical\* \*devices\*.  
10 Refs.

19/7/19 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

(c)2004 Japan Science and Tech Corp(JST). All rts. reserv.

05218559 JICST ACCESSION NUMBER: 02A0555353 FILE SEGMENT: JICST-E

Ultrasonic Electronics. Power and Interactive \*Information\* \*Transmission\* to \*Implanted\* \*Medical\* \*Device\* Using Ultrasonic.

SUZUKI S (1); KIMURA S (1); KATANE T (1); SAOTOME H (1); SAITO O (1);

KOBAYASHI K (2)

(1) Chiba Univ., Chiba, Jpn; (2) Honda Electronics Co., Ltd., Toyohashi, Jpn

Jpn J Appl Phys Part 1, 2002, VOL.41,NO.5B, PAGE.3600-3603, FIG.9, TBL.1, REF.8

JOURNAL NUMBER: G0520BAE ISSN NO: 0021-4922

UNIVERSAL DECIMAL CLASSIFICATION: 534.8 615.472/.473

LANGUAGE: English COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: In this paper, we propose the power supply and the bi-directional information transmission system using ultrasonic. Ultrasonic does not interfere with the electronic circuits of implanted devices and is safe for a living body. Previously, we have clarified experimentally that ultrasonic is applicable to power and information transmission. This study deals with improving information transmission speed from the inside to the outside of the body. The new system uses two transmission paths, Path 1 and Path 2. Each path consists of a pair of piezo oscillators. Path 1 transmits a carrier wave and Path 2 echoes back the inside information. As a result, the transmission speed increases to 9.6 Kbps from 600 bps without errors. Additionally, several types of information, such as text, static and motion image files can be transmitted. The proposed system can be applied to various medical applications. (author abst.)

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t 20/3,k/all

20/3,K/1 (Item 1 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2004 BIOSIS. All rts. reserv.

0013830421 BIOSIS NO.: 200200423932

**\*Implantable\* \*medical\* \*device\* programming apparatus having an auxiliary component storage compartment**

AUTHOR: Winkler Thomas J (Reprint)

AUTHOR ADDRESS: Isanti, MN, USA\*\*USA

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1259 (4): June 25, 2002 2002

MEDIUM: e-file

PATENT NUMBER: US 6411851 PATENT DATE GRANTED: June 25, 2002 20020625

PATENT CLASSIFICATION: 607-30 PATENT ASSIGNEE: Medtronic, Inc.

PATENT COUNTRY: USA

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

**\*Implantable\* \*medical\* \*device\* programming apparatus having an auxiliary component storage compartment**

ABSTRACT: A portable programming apparatus for use with an \*implantable\* \*medical\* \*device\* is disclosed. The programming apparatus includes a housing, at least one auxiliary component, and a...

...defines a storage compartment. The auxiliary component is configured to assist with programming an \*implantable\* \*medical\* \*device\*, perform programming and data transmission functions in cooperation with a remote data center, and interfaces...

...extend along at least a portion of a perimeter of the storage compartment. With this \*configuration\*, the lip \*selectively\* maintains the cable within the storage compartment thereby minimizing potential damage to the cable.

DESCRIPTORS:

METHODS & EQUIPMENT: auxiliary component storage compartment-based  
\*implantable\* \*medical\* \*device\* programming apparatus...

20/3,K/2 (Item 2 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2004 BIOSIS. All rts. reserv.

0013324862 BIOSIS NO.: 200100496701

**Introducer system :**

AUTHOR: McIvor Michael E; Gardeski Kenneth C; Meregotte Pedro A (Reprint);  
Bonner Mathew D; Laske Timothy G; Lach Linda L

AUTHOR ADDRESS: Coon Rapids, MN, USA\*\*USA

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1249 (4): Aug. 28, 2001 2001

MEDIUM: e-file

PATENT NUMBER: US 6280433 PATENT DATE GRANTED: August 28, 2001 20010828

PATENT CLASSIFICATION: 604-524 PATENT ASSIGNEE: Medtronic, Inc.

PATENT COUNTRY: USA

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract



LANGUAGE: English

ABSTRACT: An introducer or guide catheter for directing an \*implantable\*  
\*medical\* \*device\* such as a lead or catheter to a desired location  
within a patient's body...

...the introducer comprises a two-lumen tube. A first lumen is configured  
to receive the \*implantable\* \*medical\* \*device\* that is to be introduced.  
A second lumen is provided to receive an insertable, elongated...

...a stylet, which may be shapable in various orientations, and which may  
be used to \*alter\* the \*configuration\* of the introducer. The second  
lumen may be provided with an internal coil or other...

...in the patient's body. In order to facilitate removal of the introducer  
over an \*implantable\* \*medical\* \*device\* having a connector or fitting  
that is larger than the internal diameter of the first...

20/3,K/3 (Item 3 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
(c) 2004 BIOSIS. All rts. reserv.

0013240361 BIOSIS NO.: 200100412200

**Configurable multisite active \*implantable\* \*medical\* \*device\***

AUTHOR: Legay Thierry (Reprint); Bouhour Anne; Ripart Alain

AUTHOR ADDRESS: Fontenay les Briis, France\*\*France

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1247 (4): June 26, 2001 2001

MEDIUM: e-file

PATENT NUMBER: US 6253106 PATENT DATE GRANTED: June 26, 2001 20010626

PATENT CLASSIFICATION: 607-9 PATENT ASSIGNEE: Ela Medical S.A., Montrouge,  
France PATENT COUNTRY: USA

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

**Configurable multisite active \*implantable\* \*medical\* \*device\***

ABSTRACT: An active \*implantable\* \*medical\* \*device\*, especially a cardiac  
pacemaker, defibrillator and/or cardiovertor, of the configurable  
multisite type. In this...

...SA, SV, S1, S2) to connect selectively and according to one of various  
possible stimulation \*configurations\*, the stimulation stages, or  
\*selected\* ones of the stimulation stages, to the various sites of  
stimulation, or to selected ones...

DESCRIPTORS:

METHODS & EQUIPMENT: configurable multisite active \*implantable\*  
\*medical\* \*device\*--

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e patient. After the period of data collection...  
 ? show files;ds  
 File 444:New England Journal of Med. 1985-2004/Feb W2  
     (c) 2004 Mass. Med. Soc.  
 File 188:Health Devices Sourcebook 2002  
     ECRI (A nonprofit agency)  
 File 198:Health Devices Alerts(R) 1977-2004/Feb W2  
     (c) 2004 ECRI-nonprft agncy  
 File 135:NewsRx Weekly Reports 1995-2004/Feb W1  
     (c) 2004 NewsRx

Set	Items	Description
S1	12839	MEDICAL()DEVICE?
S2	300233	IMPLANT?
S3	2280	CUSTOMI? OR PERSONALI? OR TAILORED
S4	102	(SELECT? OR PICK? OR CHOOS?) (3N) (FEATUR? OR CAPABILI? OR T- RAIT?)
S5	1048	(COMMUNICAT? OR TRANSMIT? OR TRANSMIS? OR SEND? OR CONVEY?- ) (4N) (DATA OR INFORMATION OR REQUIREMENT?)
S6	6007	INTERNET? OR NETWORK?
S7	36892	PROGRAMMER? OR OPERATOR? OR MANUFACTURER?
S8	68820	HOSPITAL? OR SALES OR DISTRIBUTOR
S9	102	S2(4N)S1
S10	0	S9(S)S5
S11	0	S10 AND S3
S12	0	S10 AND (S6 OR S7)
S13	0	S12 NOT PD=20000204:20040206
S14	43973	CHANGE?
S15	544	(SETTING? OR SETUP? OR CONFIGURAT?) (4N) (SELECT? OR CHANG? - OR RECONFIGU? OR ALTER? OR MANIPULAT? OR CUSTOMI?)
S16	2	S9 AND (S5 OR S4 OR S15)
S17	0	S10 AND (S4 OR S15)
S18	0	RD S10 (unique items)
S19	0	S18 NOT PD=2000204:20040206
S20	1	S9 AND (S4 OR S15)
?		

16/3,K/1 (Item 1 from file: 444)  
DIALOG(R)File 444:New England Journal of Med.  
(c) 2004 Mass. Med. Soc. All rts. reserv.

00116854  
Copyright 1997 by the Massachusetts Medical Society

**Interference with Cardiac Pacemakers by Cellular Telephones (Original Articles)**

Hayes, David L.; Wang, Paul J.; Reynolds, Dwight W.; Estes, N.A. Mark, III; Griffith, John L.; Steffens, Rebecca A.; Carlo, George L.; Findlay, Gretchen K.; Johnson, Claudine M.  
The New England Journal of Medicine  
May 22, 1997; 336 (21),pp 1473-1479  
LINE COUNT: 00332 WORD COUNT: 04592

**TEXT**

...abnormalities was not considered to be due to interference.  
Incidence of Interference  
There were no \*changes\* in the programmed \*settings\* of the pacemakers during testing. The overall incidence of interference was 20.0 percent.  
Tracking...

**CITED REFERENCES**

...1992.)  
15. Carrillo R, Garay O, Balzano Q, Pickels M. Electromagnetic near field interference with \*implantable\* \*medical\* \*devices\*. In: Proceedings of the 1995 IEEE International Symposium on Electromagnetic Compatibility, Atlanta, August 14-18...

16/3,K/2 (Item 1 from file: 135)  
DIALOG(R)File 135:NewsRx Weekly Reports  
(c) 2004 NewsRx. All rts. reserv.

0000060322 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
Hytek books large \*medical\* \*device\* order; \*implant\* device for diagnosis of acid reflux disease  
Medical Devices & Surgical Technology Week, May 5, 2002, p.15

DOCUMENT TYPE: Expanded Reporting LANGUAGE: English  
RECORD TYPE: FULLTEXT  
WORD COUNT: 299

Hytek books large \*medical\* \*device\* order; \*implant\* device for diagnosis of acid reflux disease

...TEXT: where esophageal pH is measured for up to 48 hours. Using radio frequency, the capsule \*transmits\* pH \*data\* to a receiver that is worn by the patient. After the period of data collection...  
?

how files;ds

File 256:SoftBase:Reviews,Companies&Prods. 82-2004/Jan  
(c)2004 Info.Sources Inc

Set	Items	Description
S1	79	MEDICAL()DEVICE?
S2	62	IMPLANT?
S3	9388	CUSTOMI? OR PERSONALI? OR TAILORED
S4	364	(SELECT? OR PICK? OR CHOOS?) (3N) (FEATUR? OR CAPABILI? OR T- RAIT?)
S5	4111	(COMMUNICAT? OR TRANSMIT? OR TRANSMIS? OR SEND? OR CONVEY?- ) (4N) (DATA OR INFORMATION OR REQUIREMENT?)
S6	54833	INTERNET? OR NETWORK?
S7	6186	PROGRAMMER? OR OPERATOR? OR MANUFACTURER?
S8	7695	HOSPITAL? OR SALES OR DISTRIBUTOR
S9	3	S2(4N)S1
S10	0	S9(S)S5
S11	0	S10 AND S3
S12	0	S10 AND (S6 OR S7)
S13	0	S12 NOT PD=20000204:20040206
S14	10105	CHANGE?
S15	696	(SETTING? OR SETUP? OR CONFIGURAT?) (4N) (SELECT? OR CHANG? - OR RECONFIGU? OR ALTER? OR MANIPULAT? OR CUSTOMI?)
S16	0	S9 AND (S5 OR S4 OR S15)
S17	0	S10 AND (S4 OR S15)
S18	0	RD S10 (unique items)
S19	0	S18 NOT PD=2000204:20040206
S20	0	S9 AND (S4 OR S15)
?		

9/7/1

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
(c)2004 Info.Sources Inc. All rts. reserv.

02740411 DOCUMENT TYPE: Company

**Mitek Products (740411)**

249 Vanderbilt Ave  
Norwood, MA 02062 United States  
TOLL FREE TELEPHONE NUMBER: (800) 356-4835  
FAX: (781) 461-9156  
HOMEPAGE: <http://www.vapr.com>

RECORD TYPE: Directory

CONTACT: Sales Department

STATUS: Active

Mitek Products builds and markets \*medical\* \*devices\* such as suturing \*implant\* anchors and the VAPR System, which aids in soft-tissue removal. Mitek is part of ETHICON Incorporated, a Johnson & Johnson company. It is based in Norwood, Massachusetts, with facilities in Utah and Westwood, Massachusetts.  
SALES: NA

IMMEDIATE PARENT: ETHICON Inc  
REVISION DATE: 20030814

9/7/2

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
(c)2004 Info.Sources Inc. All rts. reserv.

00146469 DOCUMENT TYPE: Review

PRODUCT NAMES: XUTML (Executable & Translatable UML) (806293); UML (837474)

TITLE: Executable and Translatable UML

AUTHOR: Mellor, Stephen J  
SOURCE: Embedded Systems Programming, v16 n2 p25(6) Feb 2003  
ISSN: 1040-3272  
HOMEPAGE: <http://www.embedded.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

eXecutable and Translatable Unified Modeling Language (XTUML), a subset of the UML that has rules for execution, allows formal testing of the model before making decisions regarding implementation technologies, and a translatable model allows retargeting of the model to new implementation technologies. The basic ideas behind XTUML and how they work in practice are described. XTUML isolates application models from software architecture design and enmeshes them through a translator at deployment time. An XTUML has three components: application models, software architecture designs, and a translator. Separation allows concurrent design and application analysis modeling, and, with XTUML, the user can iteratively and incrementally build the application and the software architecture design.

Topics covered include UML in execution; UML notation; translation; integration and maintenance; execution and translation; performance optimization; defect eradication; reuse and target migration; automation; and advantages. XTUML, which has been used in over 1,400 real-time and technical projects (including \*implanted\* \*medical\* \*devices\*, a Department of Defense flight system, performance/fault-tolerant-optimized systems, and larger discrete-event simulation systems), has demonstrated many benefits, including reduced maintenance costs and extended product life.

REVISION DATE: 20030830

9/7/3

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
(c)2004 Info.Sources Inc. All rts. reserv.

00140005 DOCUMENT TYPE: Review

PRODUCT NAMES: Medical Implants (801097)

TITLE: Electronics that get under your skin: Implantable devices are the...

AUTHOR: Bairstow, Jeffrey

SOURCE: Electronic Business, v28 n7 p65(3) Jul 2002

ISSN: 0163-6197

HOME PAGE: <http://www.eb-mag.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

Today's \*implantable\* \*medical\* \*devices\* are used not only for cardiac rhythm management but also for severe pain management, brain and spinal cord injuries, Parkinson's disease, and cerebral palsy. The market for all such \*implantable\* \*medical\* \*devices\* has a predicted value of \$4.5 billion for 2002 and is growing by between 12 percent and 13 percent each year. The U.S. is the largest market, with Europe and Japan following. Southeast Asia is also expected to be a large market, as its economies become more prosperous and health care standards rise. The implantable cardiac pacemaker is still the largest market, and the implantable cardiac defibrillator (ICD) market is expanding by between 13 percent and 14 percent each year. The leading provider of pacemakers and ICDs is Medtronic, which has 50 percent of both markets. Competitors include St. Jude Medical and Guidant. The size of the devices will shrink. Market penetration for ICDs is only about 20 percent, when compared to 90 percent for conventional pacemakers. The ICD market for patients with congestive heart failure is large, with almost five million Americans suffering from the disease and 500,000 more diagnosed each year. Another very large market for implantable devices is probably brain stimulation, especially for Parkinson's disease. Currently about 15,000 people globally have been implanted with brain pacemakers.

REVISION DATE: 20020930

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show files;ds

File 15:ABI/Inform(R) 1971-2004/Feb 06  
(c) 2004 ProQuest Info&Learning  
File 9:Business & Industry(R) Jul/1994-2004/Feb 05  
(c) 2004 Resp. DB Svcs.  
File 275:Gale Group Computer DB(TM) 1983-2004/Feb 06  
(c) 2004 The Gale Group  
File 621:Gale Group New Prod.Annou.(R) 1985-2004/Feb 06  
(c) 2004 The Gale Group  
File 636:Gale Group Newsletter DB(TM) 1987-2004/Feb 06  
(c) 2004 The Gale Group  
File 16:Gale Group PROMT(R) 1990-2004/Feb 06  
(c) 2004 The Gale Group  
File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group  
File 148:Gale Group Trade & Industry DB 1976-2004/Feb 06  
(c)2004 The Gale Group

Set	Items	Description
S1	129693	MEDICAL()DEVICE?
S2	90474	IMPLANT?
S3	1361237	CUSTOMI? OR PERSONALI? OR TAILORED
S4	59944	(SELECT? OR PICK? OR CHOOS?)(3N)(FEATUR? OR CAPABILI? OR T- RAIT?)
S5	1281202	(COMMUNICAT? OR TRANSMIT? OR TRANSMIS? OR SEND? OR CONVEY?- ) (4N) (DATA OR INFORMATION OR REQUIREMENT?)
S6	7630697	INTERNET? OR NETWORK?
S7	4770366	PROGRAMMER? OR OPERATOR? OR MANUFACTURER?
S8	9489721	HOSPITAL? OR SALES OR DISTRIBUTOR
S9	3535	S2(4N)S1
S10	23	S9(S)S5
S11	1	S10 AND S3
S12	17	S10 AND (S6 OR S7)
S13	9	S12 NOT PD=20000204:20040206
S14	5455818	CHANGE?
S15	84526	(SETTING? OR SETUP? OR CONFIGURAT?)(4N)(SELECT? OR CHANG? - OR RECONFIGU? OR ALTER? OR MANIPULAT? OR CUSTOMI?)
S16	212	S9 AND (S5 OR S4 OR S15)
S17	0	S10 AND (S4 OR S15)
S18	16	RD S10 (unique items)
S19	8	S18 NOT PD=2000204:20040206
S20	26	S9 AND (S4 OR S15)
S21	13	RD S20 (unique items)
S22	7	S21 NOT PD=20000204:PD=20040206
?		

9/3,K/1 (Item 1 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2004 ProQuest Info&Learning. All rts. reserv.

02080012 62716706

**Segment disclosures under SFAS No. 131: Has business segment reporting improved?**

Street, Donna L; Nichols, Nancy B; Gray, Sidney J  
Accounting Horizons v14n3 PP: 259-285 Sep 2000  
ISSN: 0888-7993 JRNL CODE: ACH  
WORD COUNT: 8310

...TEXT: beauty care LOB, one product (infant formulas) within the nutritionals LOB, and two products (orthopaedic \*implants\* and ostomy) within the \*medical\* \*devices\* LOB. Frontier \*Communications\* reported enterprise-wide sales \*data\* for four products (commercial, consumer, carrier, and exited business-prepaid) for its integrated services reportable...

19/3,K/2 (Item 1 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

01089376 SUPPLIER NUMBER: 00540447

**Firm's Local Net Yields Unexpected Benefits.**

Computerworld, n9, p64SR

Feb. 27, 1984

ISSN: 0010-4841 LANGUAGE: ENGLISH. RECORD TYPE: ABSTRACT

ABSTRACT: Medtronic Inc., a manufacturer of \*implantable\* \*medical\* \*devices\*, has found that its local area network offers unexpected benefits. Although the firm uses various...

...its central data processing site, it has standardized all terminals, printers, and modems on its \*data\* \*communications\* network. The architecture of the network is a logical token-passing ring imposed on the ...

19/3,K/3 (Item 1 from file: 621)  
DIALOG(R)File 621:Gale Group New Prod.Annou.(R)  
(c) 2004 The Gale Group. All rts. reserv.

02238760 Supplier Number: 57645371 (USE FORMAT 7 FOR FULLTEXT)  
**Spire Corporation Announces Agreement to Transfer Optoelectronics Business for Approximately \$13 Million in Cash.**

Business Wire, p1371

Nov 19, 1999

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 325

... modules from solar cells. In addition, Spire Corporation is a leader in the improvement of \*implantable\* \*medical\* \*devices\* through specialized proprietary surface treatments. Methode Electronics, headquartered in Chicago, Illinois, manufactures component devices for Original Equipment Manufacturers (OEMs) of information processing and networking equipment, voice and \*data\* \*communications\* systems, consumer electronics, automobiles, aerospace vehicles and industrial equipment. Products employ electrical, electronic and fiber optic technologies in



\*communications\* \*data\* links, interconnections and controls.  
Certain matters discussed in this news release may be forward-looking  
...

19/3,K/4 (Item 2 from file: 621)  
DIALOG(R) File 621:Gale Group New Prod.Annou.(R)  
(c) 2004 The Gale Group. All rts. reserv.

02195730 Supplier Number: 56174877 (USE FORMAT 7 FOR FULLTEXT)  
**Spire Corporation and Methode Electronics Announce Intention to Transfer  
Optoelectronics Business.**  
Business Wire, p1227  
Oct 11, 1999  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 424

... modules from solar cells. In addition, Spire Corporation is a leader in the improvement of \*implantable\* \*medical\* \*devices\* through specialized proprietary surface treatments. Methode Electronics, headquartered in Chicago, IL, manufactures component devices for Original Equipment Manufacturers (OEMs) of information processing and networking equipment, voice and \*data\* \*communications\* systems, consumer electronics, automobiles, aerospace vehicles and industrial equipment. Products employ electrical, electronic and fiber optic technologies in \*communications\* \*data\* links, interconnections and controls.  
Certain matters discussed in this news release may be forward-looking  
...

19/3,K/5 (Item 1 from file: 636)  
DIALOG(R) File 636:Gale Group Newsletter DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

04135494 Supplier Number: 54276096 (USE FORMAT 7 FOR FULLTEXT)  
**Medical products industry expected to make full use of microelectronics  
with 15.5% annual growth predicted.**  
Biomedical Materials, pNA  
April, 1999  
Language: English Record Type: Fulltext  
Document Type: Newsletter; Trade  
Word Count: 499

... just over \$9 billion by 2003, says BCCI in its latest report RB-127 Microelectronic \*Medical\* \*Devices\* (US\$3 450). Cardiovascular \*implants\* still form the major sector of the total microelectronics market, bringing in almost 90% of...

...functionality of these devices and in their ease of use, says the report. For further \*information\*, contact: Malika Rajan, Business \*Communications\* Co Inc, 25 Van Zant Street, Norwalk, CT 06855, USA; tel: +1-203-853-4266...

19/3,K/6 (Item 2 from file: 636)  
DIALOG(R) File 636:Gale Group Newsletter DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

03335868 Supplier Number: 46857165 (USE FORMAT 7 FOR FULLTEXT)  
**Patent Listings: CARDIOLOGY/VASCULAR SURGERY/CARDIOTHORACIC SURGERY**

Healthcare Technology & Business Opportunities, v17, n17, pN/A  
Nov 1, 1996  
Language: English Record Type: Fulltext  
Document Type: Newsletter; Trade  
Word Count: 580

... heart during atrial fibrillation, #5,480,413, Telectronics Pacing Systems (U)  
\* Apparatus for high-speed \*data\* \*communication\* between an external \*medical\* \*device\* and an \*implantable\* \*medical\* \*device\*, #5,480,415, Intermedics Inc. (U)  
\* Apparatus for treating cardiac arrhythmias, #5,480,422, Biosense...

19/3,K/7 (Item 3 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

02813882 Supplier Number: 45707661 (USE FORMAT 7 FOR FULLTEXT)  
**How To Obtain Copies of Patents**  
Healthcare Technology & Business Opportunities, v16, n8, pN/A  
August 1, 1995  
Language: English Record Type: Fulltext  
Document Type: Newsletter; Trade  
Word Count: 4327

... abdominal aortic aneurism, #0 646 365, Juan Carlos Parodi, Argentina (E)  
\* Apparatus for high-speed \*data\* \*communication\* between an external \*medical\* \*device\* and an \*implantable\* \*medical\* \*device\*, #5,383,912, Intermedics Inc., (U)  
\* Artificial blood vessel, #163653, Ube Kosan (J)  
\* Artificial heart...

19/3,K/8 (Item 1 from file: 148)  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2004 The Gale Group. All rts. reserv.

04771429 SUPPLIER NUMBER: 08712156 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Shiley to develop patient registry program on Bjork-Shiley Convexo-Concave heart valve.**  
PR Newswire, 0807NY025  
August 7, 1990  
LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 701 LINE COUNT: 00056

... is being obtained by patients. The agency is concerned that physicians may not always have \*transmitted\* the \*information\* they have or may not have done so in an effective manner. Shiley has closely...

...help patients using our products and have advocated the concept of patient registries for critical, \*implanted\* \*medical\* \*devices\*. We strongly prefer to enhance the flow of information between physician and patient, if this...  
?

3,k/all

22/3,K/1 (Item 1 from file: 621)  
DIALOG(R)File 621:Gale Group New Prod.Annou.(R)  
(c) 2004 The Gale Group. All rts. reserv.

02305582 Supplier Number: 59178382 (USE FORMAT 7 FOR FULLTEXT)  
**Pacific Aerospace & Electronics Produces World's Smallest Discoidal Capacitor.**

PR Newswire, p2057  
Feb 3, 2000  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 282

(USE FORMAT 7 FOR FULLTEXT)  
TEXT:  
...s Filter Division and is available as either a bare capacitor chip or in various **\*\*alternate\*\*** package **\*\*configurations\*\*** including:  
... have numerous applications in military and commercial satellites and flight hardware as well as in **\*\*implantable\*\*** **\*\*medical\*\*** **\*\*devices\*\***. The .050" diameter discoidal capacitor is part of an ongoing program to develop ever smaller...

22/3,K/2 (Item 2 from file: 621)  
DIALOG(R)File 621:Gale Group New Prod.Annou.(R)  
(c) 2004 The Gale Group. All rts. reserv.

01708804 Supplier Number: 50316816 (USE FORMAT 7 FOR FULLTEXT)  
**InnerDyne, Inc. Announces U.S. Clearance of Vascular Access Product**  
PR Newswire, p915CGTU023  
Sept 15, 1998  
Language: English Record Type: Fulltext  
Article Type: Article  
Document Type: Newswire; Trade  
Word Count: 436

(USE FORMAT 7 FOR FULLTEXT)  
TEXT:  
...ISO9001/EN 46001 registration, and in recent months has undergone limited evaluation in a clinical **\*\*setting\*\*** in **\*\*selected\*\*** countries.  
... fibers and the application of specialized drugs and or radioactive isotopes to the surface of **\*\*implantable\*\*** **\*\*medical\*\*** **\*\*devices\*\***, enhancing their performance.  
Except for the historical information contained herein, this news release contains forward...

22/3,K/3 (Item 3 from file: 621)  
DIALOG(R)File 621:Gale Group New Prod.Annou.(R)  
(c) 2004 The Gale Group. All rts. reserv.

01490832 Supplier Number: 47127934 (USE FORMAT 7 FOR FULLTEXT)  
**Sulzer Medica Announces FDA Approval for New Cost-Effective DDDR Pacemaker**  
PR Newswire, p0214DAF023  
Feb 14, 1997  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 566

... R) products, provides an on-screen alphabetical listing of all programmable pacing functions. Once a **\*\*feature\*\*** is **\*\*selected\*\*** from the listing, automatic access to that screen is gained, much like a "GoTo" key

...

...said Garcia.

Sulzer Medica is a global partnership of companies focused on the development of **\*\*implantable\*\*** **\*\*medical\*\*** **\*\*devices\*\*** and biomaterials for the cardiovascular and orthopedic markets worldwide. The company's products and services...

22/3,K/4 (Item 4 from file: 621)

DIALOG(R)File 621:Gale Group New Prod.Annou.(R)

(c) 2004 The Gale Group. All rts. reserv.

01273165 Supplier Number: 45074889 (USE FORMAT 7 FOR FULLTEXT)

ST. JUDE MEDICAL ANNOUNCES FIRST IMPLANTATION OF PACESETTER TRILOGY(TM)

PACEMAKER

PR Newswire, pN/A

Oct 19, 1994

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 687

... DR+(TM) records and stores every heart beat and pacemaker sensor signal. Based on a **\*\*selected\*\*** "lifestyle" **\*\*setting\*\***

for the patient,

Trilogy DR+(TM) determines the sensor response that is most appropriate to...

...Inc. -- pioneer of the world's most preferred mechanical heart valve with over 550,000 **\*\*implants\*\*** -- develops, manufactures and distributes **\*\*medical\*\*** **\*\*devices\*\*** for the cardiovascular market. The Company serves physicians worldwide with the highest quality products including...

22/3,K/5 (Item 1 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

04108757 Supplier Number: 54013097 (USE FORMAT 7 FOR FULLTEXT)

contract notes.

Health Industry Today, v62, n3, pNA

March, 1999

Language: English Record Type: Fulltext

Document Type: Newsletter; Professional Trade

Word Count: 768

... other's products in their respective sales call points.

Integra LifeSciences develops, manufactures and markets **\*\*medical\*\*** **\*\*devices\*\***, **\*\*implants\*\***, and biomaterials.

Healthpoint has agreed to pay sales commissions to Integra for marketing Panafil and...

...PharMerica is a provider of pharmaceutical products and management services to long-term care and **\*\*alternate\*\*** site **\*\*settings\*\***.

The transaction is subject to approval by shareholders of both companies as well as regulatory...

22/3,K/6 (Item 1 from file: 148)  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2004 The Gale Group. All rts. reserv.

08004776 SUPPLIER NUMBER: 17237732 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Suppliers face big challenges inside small portable system designs.**  
**(shrinking portable systems necessitate integrated passive component design)**

West, James  
Electronic Business Buyer, v21, n6, pS3(2)  
June, 1995  
LANGUAGE: English RECORD TYPE: Fulltext; Abstract  
WORD COUNT: 792 LINE COUNT: 00072

... of suitable thermal processing cycles.  
Traditional approaches to miniaturization are becoming less attractive as the **\*\*capability\*\*** of **\*\*pick\*\***-and-place machinery to handle increasingly smaller devices approaches its limit. Below a certain case...

...of this technology were products for which space was more critical than cost, such as **\*\*implantable\*\*** **\*\*medical\*\*** **\*\*devices\*\***. However, the commercial success and severe space constraints of portable electronics are rapidly transforming IPCs...

22/3,K/7 (Item 2 from file: 148)  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2004 The Gale Group. All rts. reserv.

03500565 SUPPLIER NUMBER: 06321829 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Index of employers. (hospital profiles) (Nursing Opportunities supplement)**  
RN, v51, n1, pS6(377)  
Jan, 1988  
ISSN: 0033-7021 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 210302 LINE COUNT: 18943

... Magazine rated the "Top 100 Places To Live" in the United States, Danbury, Connecticut was **\*\*selected\*\*** as one of the "Top 5" areas of the country. And when they examined the...Boston, MA 02111

Telephone: 617 956-5575  
Contact: Lori Draymore  
Nurse Recruiter, Box 465  
UNIQUE **\*\*FEATURES\*\***

There's a new pride in nursing...at the New England Medical Center Department of...Off duty, enjoy a relaxed life style year 'round with a myriad of activities to **\*\*choose\*\*** from. Our average temperature is 70.5 degrees which means you can do almost anything...

show files;ds  
 File 347:JAPIO Oct 1976-2003/Oct(Updated 040202)  
     (c) 2004 JPO & JAPIO  
 File 350:Derwent WPIX 1963-2004/UD,UM &UP=200409  
     (c) 2004 Thomson Derwent  
 File 371:French Patents 1961-2002/BOPI 200209  
     (c) 2002 INPI. All rts. reserv.  
 File 344:Chinese Patents Abs Aug 1985-2003/Nov  
     (c) 2003 European Patent Office

Set	Items	Description
S1	6666	MEDICAL()DEVICE?
S2	133563	IMPLANT?
S3	16408	CUSTOMI? OR PERSONALI? OR TAILORED
S4	3856	(SELECT? OR PICK? OR CHOOS?) (3N) (FEATUR? OR CAPABILI? OR T- RAIT?)
S5	435827	(COMMUNICAT? OR TRANSMIT? OR TRANSMIS? OR SEND? OR CONVEY?- ) (4N) (DATA OR INFORMATION OR REQUIREMENT?)
S6	390156	INTERNET? OR NETWORK?
S7	198432	PROGRAMMER? OR OPERATOR? OR MANUFACTURER?
S8	115766	HOSPITAL? OR SALES OR DISTRIBUTOR
S9	39457	(SETTING? OR SETUP? OR CONFIGURAT?) (4N) (SELECT? OR CHANG? - OR RECONFIGU? OR ALTER? OR MANIPULAT? OR CUSTOMI?)
S10	1603	S1(4N)S2
S11	3	S10 AND (S3 OR S4 OR S9) AND S5
?		

LOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

015838533 . \*\*Image available\*\*  
WPI Acc No: 2003-900737/200382

**Psycho-physiological parameter processing system for medical application,  
guides patient to consult using appropriate pertinent information stored  
in patient-web interface**

Patent Assignee: RIFF K M (RIFF-I); MEDTRONIC INC (MEDT )

Inventor: RIFF K M

Number of Countries: 028 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030204413	A1	20031030	US 2002135908	A	20020429	200382 B
WO 200394089	A2	20031113	WO 2003US12985	A	20030424	200402

Priority Applications (No Type Date): US 2002135908 A 20020429

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

US 20030204413	A1		11	G06F-017/60	
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WO 200394089	A2	E		G06F-019/00	
--------------	----	---	--	-------------	--

Designated States (National): CA JP

Designated States (Regional): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR  
HU IE IT LU MC NL PT SE SI SK TR

Abstract (Basic): US 20030204413 A1

NOVELTY - A \*personalized\* engine having \*data\* \*communication\* with a patient web interface and an \*implantable\* \*medical\* \*device\* (IMD) (10), includes a data evaluation module. The IMD transfers physiological, therapy and diagnostic data to the patient web interface. The data evaluation module guides the patient (12) to consult using appropriate pertinent information stored in patient web interface, based on the data input from the patient.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for computer implemented software system for diagnostic and therapeutic applications.

USE - For processing psycho-physiological parameters to guide patient with an \*implantable\* \*medical\* \*device\* used in medical applications.

ADVANTAGE - Enables the patient to guide with most appropriate information source consistent with medical condition indicated by \*implanted\* \*medical\* \*device\*.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic view of the psycho-physiological parameter processing system.

IMD (10)

patient (12)

explicit data (212)

implicit data (214)

transactional data (216)

data server (220)

pp; 11 DwgNo 4/5

Derwent Class: P34; S05; T01

International Patent Class (Main): G06F-017/60; G06F-019/00

International Patent Class (Additional): A61N-001/18; A61N-001/20;

A61N-001/22; A61N-001/24; A61N-001/26; A61N-001/28

11/7/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014778120    \*\*Image available\*\*

WPI Acc No: 2002-598826/200264

Medical device production-supply information management system for  
inventory control, receives \*implanted\* \*medical\* \*devices\*  
\*customization\* and other related data from programming unit of patient  
to control device production

Patent Assignee: CAMPBELL C J (CAMP-I); CLARK L G (CLAR-I); FABIAN W M  
(FABI-I); MCMENIMEN J L (MCME-I); RUBLE B K (RUBL-I); THOMPSON D L  
(THOM-I)

Inventor: CAMPBELL C J; CLARK L G; FABIAN W M; MCMENIMEN J L; RUBLE B K;  
THOMPSON D L

Number of Countries: 001    Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020077850	A1	20020620	US 2000180289	P	20000204	200264    B
			US 2001775262	A	20010201	

Priority Applications (No Type Date): US 2000180289 P 20000204; US  
2001775262 A 20010201

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020077850	A1		12	G06F-017/60	Provisional application US 2000180289

Abstract (Basic): US 20020077850 A1

NOVELTY - A programming unit (20) communicating with \*implanted\*  
\*medical\* \*devices\* (10,15) in a patient (12), provides device-related  
information to an information network (60) through one of the cellular  
and satellite \*communication\* links (56,55). The \*information\* network  
also receives \*customization\* information about the devices from the  
programming unit to control the device production process.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the  
following:

- (1) Medical device inventory and production control system;
- (2) Medical device inventory production management method.

USE - For inventory control at vendor stocks, material/product  
tracking, production center, distribution and shipping management. Also  
for providing production and supply information of medical devices such  
as pacemakers, cardioverter-defibrillators, neurological stimulators,  
leads, drug delivery systems, lead adapters, lead repair kits to  
patients, hospitals, sales offices and related-information hubs.

ADVANTAGE - Delivers efficient \*customized\* medical devices quickly  
by receiving relevant information on-line over a network.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of  
the medical device production and supply information management system.

\*Implanted\* \*medical\* \*device\* (10,15)  
Patient (12)  
Programming unit (20)  
Satellite communication link (55)  
Cellular link (56)  
Information network (60)  
pp; 12 DwgNo 3/4

Derwent Class: T01

International Patent Class (Main): G06F-017/60

11/7/3        (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014301558

Karen Lehman EIC 3600 06-Feb-04



WPI Acc No: 2002-122262/200216

**Management of medical care of patient comprises using deep computing techniques to mine accessed statistical data to associate pertinent statistical data with patient data in patient file to form patient specific medical profile**

Patent Assignee: MEDTRONIC INC (MEDT ); WEBB J D (WEBB-I); FABIAN W (FABI-I); KAUFMAN H (KAUF-I); MOORE D (MOOR-I); THOMPSON D L (THOM-I)  
Inventor: NELSON C G; NORRIS H E; WEBB J D; FABIAN W; KAUFMAN H; MOORE D; THOMPSON D L

Number of Countries: 023 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200197909	A2	20011227	WO 2001US19052	A	20010614	200216 B
US 20020023654	A1	20020228	US 2000211410	P	20000614	200220
			US 2001887376	A	20010622	
US 20020026103	A1	20020228	US 2000211410	P	20000614	200220
			US 2001881268	A	20010614	
US 20020049482	A1	20020425	US 2000211410	P	20000614	200233
			US 2001944720	A	20010831	
EP 1294441	A2	20030326	EP 2001946336	A	20010614	200323
			WO 2001US19052	A	20010614	
US 6669631	B2	20031230	US 2000211410	P	20000614	200402
			US 2001881268	A	20010614	

Priority Applications (No Type Date): US 2000211410 P 20000614; US 2001887376 A 20010622; US 2001881268 A 20010614; US 2001944720 A 20010831

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200197909	A2	E	35	A61N-001/39	
				Designated States (National): CA JP	
				Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR	
US 20020023654	A1			A61B-019/00	Provisional application US 2000211410
US 20020026103	A1			A61B-005/00	Provisional application US 2000211410
US 20020049482	A1			A61N-001/08	Provisional application US 2000211410
EP 1294441	A2	E		A61N-001/39	Based on patent WO 200197909
				Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR	
US 6669631	B2			A61B-005/00	Provisional application US 2000211410

Abstract (Basic): WO 200197909 A2

NOVELTY - A medical care of a patient is managed by applying deep computing techniques to mine the accessed statistical data to associate pertinent statistical data with the patient data in the patient file to form a patient specific medical profile.

DETAILED DESCRIPTION - Management of medical care of a patient comprises providing patient data to a patient file at a centralized information database. The patient data includes \*implantable\* \*medical\* \*device\* developed patient data. The statistical data from public domain databases and governmental and international health agency databases is accessed. Deep computing techniques is applied to mine the accessed statistical data to associate pertinent statistical data with the patient data in the patient file to form a patient specific medical profile. Based upon the patient specific medical profile, the patient specific information is formulated. The formulated patient specific information is delivered to patient(s) and the health care provider.

An INDEPENDENT CLAIM is also included for a computer-implemented software system of a centralized medical data information network

comprising inputting mechanism for data from various sources including \*implantable\* \*medical\* \*device\* developed patient data, compiler for inputted data from sources into compiled data, integrating mechanism for the compiled data with resident data in a centralized medical data information network into a patient file, and analysis performing mechanism for analysis of the patient file to generate the patient specific medical profile.

The inputting mechanism, compiler, and integrating mechanism and the analysis performing mechanism are functional structures of the centralized medical data information network.

USE - For managing medical care of a patient having \*implantable\* \*medical\* \*device\*(s) \*implanted\* in the patient's body to deliver a therapy and/or monitor a physiologic condition of the patient.

ADVANTAGE - The invention is capable of \*communicating\* patient \*data\* externally to a remote receiver. The receiver is in \*communication\* with a centralized medical \*information\* network that is capable of developing and delivering new and unique tools to help physicians better manage chronically ill patients.

pp; 35 DwgNo 0/7

Derwent Class: B07; P31; P34; S05; T01

International Patent Class (Main): A61B-005/00; A61B-019/00; A61N-001/08;  
A61N-001/39

International Patent Class (Additional): A61N-001/37

?

File 348:EUROPEAN PATENTS 1978-2004/Jan W05

(c) 2004 European Patent Office

File 349:PCT FULLTEXT 1979-2002/UB=20040129,UT=20040122

(c) 2004 WIPO/Univentio

Set	Items	Description
S1	12101	MEDICAL()DEVICE?
S2	85959	IMPLANT?
S3	57547	CUSTOMI? OR PERSONALI? OR TAILORED
S4	15912	(SELECT? OR PICK? OR CHOOS?) (3N) (FEATUR? OR CAPABILI? OR T- RAIT?)
S5	176503	(COMMUNICAT? OR TRANSMIT? OR TRANSMIS? OR SEND? OR CONVEY?- ) (4N) (DATA OR INFORMATION OR REQUIREMENT?)
S6	220419	INTERNET? OR NETWORK?
S7	243237	PROGRAMMER? OR OPERATOR? OR MANUFACTURER?
S8	67049	HOSPITAL? OR SALES OR DISTRIBUTOR
S9	65384	(SETTING? OR SETUP? OR CONFIGURAT?) (4N) (SELECT? OR CHANG? - OR RECONFIGU? OR ALTER? OR MANIPULAT? OR CUSTOMI?)
S10	14	S1(S)S2(S) (S3 OR S4 OR S9) (2S) (S5 OR S6)
S11	6	S10 NOT AD=>2000020

11/3,AB/1 (Item 1 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

00828664

VASCULARIZED TISSUE REGENERATION MATRICES FORMED BY SOLID FREE-FORM  
FABRICATION METHODS

MITTELS EINES HERSTELLUNGSVERFAHRENS FUR FREI GESTALTETE FESTE STRUKTUREN  
HERGESTELLTE MATRITZEN FUR VASKULARISIERTE GEWEBEREGENERATION  
MATRICES DE REGENERATION DE TISSUS VASCULARISES FORMEES PAR DES PROCEDES  
D'ELABORATION DE FORMES LIBRES SOLIDES

PATENT ASSIGNEE:

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, (210190), 77 Massachusetts Avenue,  
Cambridge, MA 02139, (US), (Proprietor designated states: all)  
CHILDREN'S MEDICAL CENTER CORPORATION, (629160), 55 Shattuck Street,  
Boston Massachusetts 02115, (US), (Proprietor designated states: all)

INVENTOR:

VACANTI, Joseph, P., 14 Woodside Road, Winchester, MA 01890, (US)  
GRIFFITH, Linda, G., P.O.Box 397170, Cambridge, MA 02139, (US)  
CIMA, Michael, J., 2101 Massachusetts Avenue, Lexington, MA 02173, (US)

LEGAL REPRESENTATIVE:

Bassett, Richard Simon (52833), Eric Potter Clarkson, Park View House, 58  
The Ropewalk, Nottingham NG1 5DD, (GB)

PATENT (CC, No, Kind, Date): EP 836453 A1 980422 (Basic)  
EP 836453 B1 021009  
WO 96040002 961219

APPLICATION (CC, No, Date): EP 96918272 960605; WO 96US9344 960605

PRIORITY (CC, No, Date): US 477226 950607

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU;  
MC; NL; PT; SE

INTERNATIONAL PATENT CLASS: A61F-002/10; A61L-027/00

NOTE:

No A-document published by EPO

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200241	931
CLAIMS B	(German)	200241	1027
CLAIMS B	(French)	200241	1093
SPEC B	(English)	200241	10398
Total word count - document A			0
Total word count - document B			13449
Total word count - documents A + B			13449

11/3,AB/2 (Item 2 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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00774037

POLYMERIC MEDICAL DEVICE SYSTEMS HAVING SHAPE MEMORY

POLYMERISCHE MEDIZINISCHE VORRICHTUNGSSYSTEME MIT FORMSPEICHER  
SYSTEMES A MEMOIRE DE FORME POUR DISPOSITIFS MEDICAUX POLYMERES

PATENT ASSIGNEE:

MENLO CARE INC., (799242), 1350 Willow Road, Menlo Park, CA 94025, (US),  
(Proprietor designated states: all)

INVENTOR:

BALBIERZ, Daniel, J., 1356 Walnut, San Carlos, CA 94070, (US)  
WALKER, Jack, M., 247 Echo Lane, Portola Valley, CA 94025, (US)  
THOMAS, Joseph, R., 2504 Melendy Drive, San Carlos, CA 94070, (US)

BLEY, Robert, S., 298 Stanford Avenue, Menlo Park, CA 94025, (US)  
VAN BLADEL, Kevin, 13436 Pastel Lane, Mountain View, CA 94040, (US)  
LEGAL REPRESENTATIVE:  
Mercer, Christopher Paul (46611), Carpmaels & Ransford 43, Bloomsbury  
Square, London WC1A 2RA, (GB)  
PATENT (CC, No, Kind, Date): EP 789602 A1 970820 (Basic)  
EP 789602 B1 021204  
WO 96011721 960425  
APPLICATION (CC, No, Date): EP 95938719 950929; WO 95US12826 950929  
PRIORITY (CC, No, Date): US 316933 941003  
DESIGNATED STATES: DE; ES; FR; GB; IT; SE  
INTERNATIONAL PATENT CLASS: A61L-015/42; A61L-027/14  
NOTE:

No A-document published by EPO  
LANGUAGE (Publication, Procedural, Application): English; English; English  
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200249	536
CLAIMS B	(German)	200249	557
CLAIMS B	(French)	200249	606
SPEC B	(English)	200249	15011
Total word count - document A			0
Total word count - document B			16710
Total word count - documents A + B			16710

11/3,AB/3 (Item 1 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00737652

GENE SEQUENCE VARIATIONS WITH UTILITY IN DETERMINING THE TREATMENT OF  
DISEASE  
VARIATIONS DE SEQUENCES GENIQUES PRESENTANT UNE UTILITE POUR LA SELECTION  
DU TRAITEMENT D'UNE MALADIE

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English Abstract

The present disclosure describes the use of genetic variance information for genes involved in gene pathways in the selection of effective methods of treatment of a disease or condition. The variance information is indicative of the expected response of a patient to a method of treatment. Methods of determining relevant variance information and additional methods of using such variance information are also described.

French Abstract

La presente invention se rapporte a l'utilisation d'informations de variance genetique relatives a des genes impliqués dans des mecanismes genetiques, pour la selection de methodes efficaces de traitement d'une maladie ou d'un trouble. Ces informations de variance sont representatives de la reponse attendue chez un patient a une methode de traitement. L'invention se rapporte egalement a des methodes de selection d'informations de variance pertinentes et a d'autres methodes d'utilisation de telles informations de variance.

11/3,AB/4 (Item 2 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00357488

VASCULARIZED TISSUE REGENERATION MATRICES FORMED BY SOLID FREE-FORM  
FABRICATION METHODS

MATRICES DE REGENERATION DE TISSUS VASCULARISES FORMEES PAR DES PROCEDES  
D'ELABORATION DE FORMES LIBRES SOLIDES

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English Abstract

Solid free-form fabrication (SFF) methods are used to manufacture devices for allowing tissue regeneration and for seeding and implanting cells to form organ and structural components, which can additionally provide controlled release of bioactive agents, wherein the matrix is characterized by a network of lumens functionally equivalent to the naturally occurring vasculature of the tissue formed by the implanted cells, and which can be lined with endothelial cells and coupled to blood vessels at the time of implantation to form a vascular network throughout the matrix. The SFF methods can be adapted for use with a variety of polymeric, inorganic and composite materials to create structures with defined compositions, strengths, and densities, using computer aided design (CAD). Examples of SFF methods include stereo-lithography (SLA), selective laser sintering (SLS), ballistic particle manufacturing (BPM), fusion deposition modeling (FDM), and three-dimensional printing (3DP).

French Abstract

On utilise des procedes d'elaboration de formes libres solides pour

fabriquer des dispositifs qui permettent la regeneration de tissus et l'implantation de tissus destines a former des organes et des elements structuraux, et qui en outre peuvent liberer de maniere reglee des agents bioactifs. La matrice se caracterise par un reseau de conduits de fonction equivalente au systeme des vaisseaux naturels dans le tissu forme par les cellules implantees. Ce reseau peut etre revetu de cellules endotheliales et couple aux vaisseaux sanguins au moment de l'implantation afin de former un reseau vasculaire a travers toute la matrice. On peut adapter les procedes d'elaboration de formes libres solides a des matériaux polymeres, inorganiques et composites divers afin de creer des structures de composition, resistance et densite definies, en utilisant la conception assistee par ordinateur (CAO). Quelques exemples de procedes d'elaboration de formes libres solides sont la stereolithographie, le frittage selectif au laser, la fabrication balistique de particules, le modelage par depot et fusion et l'impression tridimensionnelle.

11/3,AB/5 (Item 3 from file: 349)  
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00331408

METHOD AND APPARATUS FOR SYNCHRONIZING PPM COMMUNICATIONS BETWEEN AN IMPLANTABLE DEVICE AND AN EXTERNAL DEVICE  
PROCEDE ET APPAREIL PERMETTANT DE SYNCHRONISER LES COMMUNICATIONS A MODULATION D'IMPULSIONS EN POSITION ENTRE UN DISPOSITIF MEDICAL IMPLANTABLE ET UN DISPOSITIF EXTERNE

Patent Applicant/Assignee:

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Inventor(s):

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Patent and Priority Information (Country, Number, Date):

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#### English Abstract

A method and apparatus is disclosed for use in an implantable device that communicates with an external device through pulse position modulation. A timing generator is provided as part of said implantable device that determines the phase uncertainty between an external signal and an internal clock signal. The phase uncertainty then is added to the preset delay period to more precisely control the position of the response. The phase uncertainty is measured by a dual slope circuit that varies a state variable (which can be a digital timer, a capacitor voltage, or the like) at a fixed rate with either a positive or negative slope. When the external signal is detected, the state variable is reset and then decreased at a fixed rate until the next positive edge of the clock signal. The state variable then is increased at the same rate until the subsequent positive clock edge. The resulting variable value is proportional to the phase uncertainty. When the delay timer reaches zero, the state variable is again decreased at the same fixed rate until the initial value is reached, at which the output response is generated.

#### French Abstract

Procede et appareil destine a etre utilise dans un dispositif implantable qui communique avec un dispositif externe par modulation

d'impulsions en position. Un generateur de synchronisation est integre au dispositif implantable et determine l'incertitude de phase entre un signal externe et un signal d'horloge interne. L'incertitude de phase est ensuite ajoutee au temps de retard predetermine afin de controler plus precisement la position de la reponse. L'incertitude de phase est mesuree par un circuit a double pente qui fait varier une variable d'etat (qui peut etre une horloge numerique, une tension de condensateur ou autre) a une cadence fixe soit avec une pente positive, soit avec une pente negative. Lorsque le signal externe est detecte, la variable d'etat est reinitialisee, puis decrementee a une cadence fixe jusqu'au front suivant du signal d'horloge. La variable d'etat est ensuite incrementee a la meme cadence jusqu'au front suivant positif du signal d'horloge. La valeur de la variable obtenue est proportionnelle a l'incertitude de phase. Lorsque l'horloge a retard arrive a zero, la variable d'etat est a nouveau decrementee a la meme cadence fixe jusqu'au moment ou la valeur initiale soit atteinte, moment auquel est generee la reponse de sortie.

11/3,AB/6 (Item 4 from file: 349)  
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00276929

APPARATUS AND METHOD FOR HIGH SPEED DATA COMMUNICATION BETWEEN AN EXTERNAL  
MEDICAL DEVICE AND AN IMPLANTABLE MEDICAL DEVICE  
APPAREIL ET PROCEDE DE TRANSMISSION RAPIDE DE DONNEES ENTRE UN DISPOSITIF  
MEDICAL EXTERNE ET UN DISPOSITIF MEDICAL IMPLANTABLE

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Patent and Priority Information (Country, Number, Date):

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Publication Language: English

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#### English Abstract

A method of communicating data between an external device and an implantable medical device wherein a first pulse is transmitted as electromagnetic energy from one device to the other, is received and stored as electrostatic energy in the second device and, after a delay period representing data to be communicated, the stored energy is released and transmitted as electromagnetic energy back to the first device. A communications circuit in the implantable device for accomplishing the method includes an antenna coil, a non-linear electronic component in circuit communication with the antenna coil, a storage capacitor in circuit communication with the antenna coil and non-linear electronic component for storing energy received by the antenna coil, and a switch for selectively connecting the charged storage capacitor and the antenna coil to discharge the charge stored in the capacitor into the antenna coil.

#### French Abstract

Procede de transmission de donnees entre un dispositif externe et un dispositif medical implantable dans lequel une premiere impulsion est transmise sous la forme d'energie electromagnetique d'un dispositif a l'autre, est recue puis stockee sous forme d'energie electrostatique dans



le second dispositif et, après une période de temporisation représentant les données à transmettre, l'énergie stockée est libérée puis retransmise sous forme d'énergie électromagnétique vers le premier dispositif. Un circuit de communication se trouvant dans le dispositif implantable et destiné à mettre en application le procédé comprend une bobine d'antenne, un composant électronique non-linéaire en communication en circuit avec la bobine d'antenne, un condensateur de stockage en communication en circuit avec la bobine d'antenne ainsi qu'un composant électronique non-linéaire destiné à stocker l'énergie reçue par la bobine d'antenne, et un commutateur destiné à connecter sélectivement le condensateur de stockage chargé et la bobine d'antenne afin de décharger la charge stockée dans le condensateur dans la bobine d'antenne.